Search Results -

Term	Documents
MASS.USPT.	359854
MASSES.USPT.	31228
(6 AND MASS).USPT.	35

Database: US Patents Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Refine Search: 16 and mass — Clear

Search History

Today's Date: 2/2/2001

DB Name	Query	Hit Count	Set Name
USPT	l6 and mass	35	L7
USPT	l2 and clearance	51	L6
USPT	l2 and "tolerated dose"	7	L5
USPT	l2 and dosing	7	L4
USPT	l1 same radiopharmaceutical	13	L3
USPT	l1 and (radiopharmaceutical)	95	L2
USPT	dosimetry	1181	L1

=> d his

(FILE 'HOME' ENTERED AT 08:24:50 ON 02 FEB 2001)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE, SCISEARCH, BIOTECHDS' ENTERED AT 08:24:56 ON 02 FEB 2001

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L1      64206 S DOSIMETRY
L2       1126 S L1 AND RADIOPHARMACEUTICAL
L3        118 S L2 AND CLEARANCE
L4          6 S L3 AND MASS
L5          4 DUP REM L4 (2 DUPLICATES REMOVED)
L6          1 S L3 AND DOSING
L7         18 S L3 AND "EFFECTIVE DOSE"
L8          9 DUP REM L7 (9 DUPLICATES REMOVED)
L9         12 S L5 OR L6 OR L8
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=> d ibib abs 19 1-12

L9 ANSWER 1 OF 12 MEDLINE

ACCESSION NUMBER: 2000267200 MEDLINE
DOCUMENT NUMBER: 20267200
TITLE: Breast milk excretion of **radiopharmaceuticals**: mechanisms, findings, and radiation **dosimetry**.
AUTHOR: Stabin M G; Breitz H B
CORPORATE SOURCE: Departamento de Energia Nuclear, Universidade Federal de Pernambuco, Recife, Brazil.
SOURCE: JOURNAL OF NUCLEAR MEDICINE, (2000 May) 41 (5) 863-73.
Ref: 51
Journal code: JEC. ISSN: 0161-5505.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 200007
ENTRY WEEK: 20000704

AB The excretion of **radiopharmaceuticals** in breast milk is studied to understand excretion mechanisms and to determine recommended breast feeding interruption times for many compounds based on the radiation absorbed dose estimated. A literature review is summarized, providing information on breast milk excretion of many **radiopharmaceuticals**, including the observed fractions of administered activity excreted and the disappearance half-times. Radiation doses to the infant and to the mother's breasts have been calculated using mathematical models of the activity **clearance** into milk, with interruption schedules for the nursing infant derived using a dose criteria of 1 mSv **effective dose** to the infant. In only 9 of the 25 **radiopharmaceuticals** considered here is interruption in breast feeding thought necessary. However, in the literature, breast milk concentrations of **radiopharmaceuticals** and half-times varied considerably between subjects, and individual measurements are encouraged to raise confidence in specific cases. The absorbed dose to the mother's breast approaches 10-20 mGy (1-2 rad) for a few nuclides, but most doses are quite low. Therapeutic administration of 131I-NaI is a special case, for which the breast dose for a 5550 MBq (150 mCi) administration could approach 2 Gy (200 rad). In this article, these data are discussed, with the aim of assisting others in evaluating the significance of

administration of **radiopharmaceuticals** to lactating women. An example of a sampling scheme and calculation to determine dose for a specific patient is also developed.

L9 ANSWER 2 OF 12 MEDLINE
ACCESSION NUMBER: 2000181995 MEDLINE
DOCUMENT NUMBER: 20181995
TITLE: The AAPM/RSNA physics tutorial for residents: internal radiation **dosimetry**: principles and applications.
AUTHOR: Toohey R E; Stabin M G; Watson E E
CORPORATE SOURCE: Radiation Internal Dose Information Center, Oak Ridge Institute for Science and Education, Oak Ridge, TN 37831-0117, USA.. tooheyr@orau.gov
SOURCE: RADIOGRAPHICS, (2000 Mar-Apr) 20 (2) 533-46; quiz 531-2.
Journal code: RDG. ISSN: 0271-5333.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200006
ENTRY WEEK: 20000602
AB Internal dose calculations in nuclear medicine normally use the techniques, equations, and resources provided by the Medical Internal Radiation Dose (MIRD) Committee of the Society of Nuclear Medicine. The MIRD schema uses a unique set of symbols and quantities to calculate the absorbed dose of radiation in any target organ per radioactive decay in any source organ. The calculations involve the energy emitted per radioactive decay, the fraction of the emitted energy that is absorbed in various target organs, the **masses** of these organs, and both the physical decay and biologic **clearance** of the injected radioactive material. Standardized mathematical models (phantoms) of the human body and standardized biokinetic models are also used. A computer program, MIRDose, calculates dose tables per unit administered activity of various **radiopharmaceuticals**. Special care must be taken when nuclear medicine procedures involve pregnant or lactating patients. New methodologies are becoming available to calculate doses to individual patients.

L9 ANSWER 3 OF 12 MEDLINE
ACCESSION NUMBER: 2000009431 MEDLINE
DOCUMENT NUMBER: 20009431
TITLE: Biodistribution and **dosimetry** of (iodine-123)-iodomethyl-N, N-diethyltamoxifen, an (anti)oestrogen receptor radioligand.
AUTHOR: Van de Wiele C; De Vos F; De Sutter J; Dumont F; Slegers G; Dierckx R A; Thierens H
CORPORATE SOURCE: Division of Nuclear Medicine, University Hospital Gent, De Pintelaan 185, B-9000 Gent, Belgium.
SOURCE: EUROPEAN JOURNAL OF NUCLEAR MEDICINE, (1999 Oct) 26 (10) 1259-64.
Journal code: ENC. ISSN: 0340-6997.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
(CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200004
ENTRY WEEK: 20000403
AB This study reports on the distribution and radiation **dosimetry** of iodine-123 labelled trans-Z-iodomethyl-N,N-diethyltamoxifen (123-ITX), a promising radioligand for prediction of the therapeutic efficacy of unlabelled tamoxifen in human breast carcinoma. Whole-body scans were performed up to 24 h after intravenous injection of 123-ITX (mean: 146 MBq, range: 142-148 MBq) in five female volunteers, four with and one

without thyroid blockade. Blood samples were taken at various times up to 24 h after injection. Urine was also collected up to 24 h after injection, allowing calculation of renal **clearance** and interpretation of whole-body **clearance**. Time-activity curves were generated for the thyroid, heart, brain, breasts, liver and gallbladder by fitting the organ-specific geometric mean counts, obtained from regions of interest. The MIRD formulation was applied to calculate the absorbed radiation doses for various organs. The images showed rapid hepatobiliary excretion, resulting in good imaging conditions for the thoracic region, whereas imaging of the abdominal region was impeded by extensive bowel activity. The breast to non-specific uptake ratio increased over time. 123-ITX was cleared by both the kidneys and the gastrointestinal tract. At 50 h p.i. the mean excretion in the urine was 89.4% (SD 5.7%). If the thyroid was not blocked, it was one of the critical organs. The highest absorbed doses were received by the excretory organs, i.e. the urinary bladder wall, the lower and upper large intestine, and the gallbladder wall. The average **effective dose** of 123-ITX was estimated to be 0.0084 mSv/MBq. The amount of 123-ITX required for adequate imaging of tumoral uptake results in an acceptable **effective dose** to the patient.

L9 ANSWER 4 OF 12 MEDLINE
ACCESSION NUMBER: 1999316775 MEDLINE
DOCUMENT NUMBER: 99316775
TITLE: Rhenium-186-labeled hydroxyethylidene diphosphonate **dosimetry** and **dosing** guidelines for the palliation of skeletal metastases from androgen-independent prostate cancer.
AUTHOR: Graham M C; Scher H I; Liu G B; Yeh S D; Curley T; Daghighian F; Goldsmith S J; Larson S M
CORPORATE SOURCE: Department of Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, New York 10021, USA.. mcgraham@mail.med.cornell.edu
CONTRACT NUMBER: CA-05826 (NCI)
SOURCE: CLINICAL CANCER RESEARCH, (1999 Jun) 5 (6) 1307-18. Journal code: C2H. ISSN: 1078-0432.
PUB. COUNTRY: United States
(CLINICAL TRIAL)
(CLINICAL TRIAL, PHASE I)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199912
ENTRY WEEK: 19991201

AB Rhenium-186 (tin)-labeled hydroxyethylidene diphosphonate (186Re-labeled HEDP) was evaluated in 27 men with progressive androgen-independent prostate cancer and bone metastases. Administered activities ranged from 1251 to 4336 MBq (33.8-117.2 mCi). The primary objectives were to assess tumor targeting, normal organ **dosimetry**, and safety. Antitumor effects were assessed by posttherapy changes in prostate-specific antigen and, when present, palliation of pain. Whole-body kinetics, blood and kidney **clearance**, skeletal dose, marrow dose, and urinary excretion of the isotope were assessed. Targeting of skeletal disease was observed over the period of quantification (4-168 h). Radiation doses to whole body, bladder, and kidney were well tolerated. The dose-limiting toxicity was myelosuppression (grade III) at 4107 MBq (111 mCi) and grade II at 296 MBq (80 mCi). Probe **clearance** (whole body) and urinary excretion measurements were highly correlated. Of the six patients treated at the highest dosage schedules (three at 1510 MBq/m2 and three at 1665 MBq/m2), three showed a posttherapy decline in prostate-specific antigen of 50% or more. The declines were not sustained. The determination of

total activity retained at 24 h, as well as an estimate of marrow dose, correlated with the amount of myelosuppression observed. These results suggest that a single 24-h measurement of retained activity would allow individualized **dosing** and an improved therapeutic index relative to fixed **dosing** schema. Repetitive **dosing** is required to increase palliation.

L9 ANSWER 5 OF 12 MEDLINE
ACCESSION NUMBER: 92235723 MEDLINE
DOCUMENT NUMBER: 92235723
TITLE: Somatostatin receptor scintigraphy with indium-111-DTPA-D-Phe-1-octreotide in man: metabolism, **dosimetry** and comparison with iodine-123-Tyr-3-octreotide.
AUTHOR: Krenning E P; Bakker W H; Kooij P P; Breeman W A; Oei H Y; de Jong M; Reubi J C; Visser T J; Bruns C; Kwekkeboom D J; et al
CORPORATE SOURCE: Department of Nuclear Medicine, University Hospital Dijkzigt, Rotterdam, The Netherlands.
SOURCE: JOURNAL OF NUCLEAR MEDICINE, (1992 May) 33 (5) 652-8. Journal code: JEC. ISSN: 0161-5505.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199207
AB Scintigraphy with 123I-Tyr-3-octreotide has several major drawbacks as regards its metabolic behavior, its cumbersome preparation and the short physical half-life of the radionuclide. The use of another radiolabeled analog of somatostatin, 111In-DTPA-D-Phe-1-octreotide, has consequently been proposed. DTPA-D-Phe-1-octreotide can be radiolabeled with 111In in an easy single-step procedure. DTPA-D-Phe-1-octreotide is cleared predominantly via the kidneys. Fecal excretion of radioactivity amounts to only a few percent of the administered radioactivity. For the radiation dose to normal tissues, the most important organs are the kidneys, the spleen, the urinary bladder, the liver and the remainder of the body. The calculated **effective dose** equivalent is 0.08 mSv/MBq. Optimal 111In-DTPA-D-Phe-1-octreotide scintigraphic imaging of various somatostatin receptor-positive tumors was obtained 24 hr after injection. In the six patients studied, tumor localization with 123I-Tyr-3-octreotide and with 111In-DTPA-D-Phe-1-octreotide were found to be similar. However, the normal pituitary is more frequently visualized with the latter **radiopharmaceutical**. In conclusion, 111In-DTPA-D-Phe-1-octreotide appears to be a sensitive somatostatin receptor-positive tissue-seeking **radiopharmaceutical** with some remarkable advantages: easy preparation, general availability, appropriate half-life and absence of major interference in the upper abdominal region, because of its renal **clearance**. Therefore, 111In-DTPA-D-Phe-1-octreotide may be suitable for use in SPECT of the abdomen, which is important in the localization of small endocrine gastroenteropancreatic tumors.

L9 ANSWER 6 OF 12 BIOSIS COPYRIGHT 2001 BIOSIS
ACCESSION NUMBER: 1990:416417 BIOSIS
DOCUMENT NUMBER: BA90:77218
TITLE: PHARMACOKINETICS BIODISTRIBUTION AND **DOSIMETRY** OF TECHNETIUM-99M V DMSA IN HUMANS WITH SQUAMOUS CELL CARCINOMA.
AUTHOR(S): WATKINSON J C; ALLEN S; LAZARUS C R; SINCLAIR J; BLAKE G M; CLARKE S E M
CORPORATE SOURCE: DEP. OTOLARYNGOL., GUY'S HOSP., ST. THOMAS' ST., LONDON SE1 9RT.
SOURCE: NUCL MED COMMUN, (1990) 11 (5), 343-360.

CODEN: NMCODC. ISSN: 0143-3636.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Technetium-99m (99Tcm)(V) dimercaptosuccinic acid (DMSA) is a new tumour imaging agent which has been used to evaluate squamous carcinoma (SCC) of the head and neck. This study evaluated the pharmacokinetics and biodistribution of 99Tcm(V)DMSA in patients with SCC and calculated the bone **mass** of a New Zealand White (NZW) rabbit. This data was then used to calculate the **effective dose** equivalent in man. A total of 16 patients were studied (5 with no tumour, 11 with tumour). 99Tcm(V)DMSA had a fast bi-exponential blood **clearance** in patients with no tumour (30 and 401 min) and patients with tumour (30 and 387 min) with no significant difference ($p > 0.05$) between the two groups. 99Tcm(V)DMSA had a fast cumulative urine excretion with mean half-times in non-tumour and tumour patients of 183 min and 244 min respectively. There was no significant difference ($p > 0.05$) between these two latter groups. The **effective dose** equivalent of 99Tcm(V)DMSA in man is 5.1 .mu.Sv/MBq.

L9 ANSWER 7 OF 12 BIOSIS COPYRIGHT 2001 BIOSIS
ACCESSION NUMBER: 1990:387160 BIOSIS
DOCUMENT NUMBER: BR39:58121
TITLE: PEDIATRIC **RADIOPHARMACEUTICAL DOSIMETRY**
.
AUTHOR(S): MOUNTFORD P J
CORPORATE SOURCE: DEP. NUCLEAR MED., KENT CANTERBURY HOSP.
SOURCE: Nucl. Med. Commun., (1990) 11 (5), 339-342.
CODEN: NMCODC. ISSN: 0143-3636.
FILE SEGMENT: BR; OLD
LANGUAGE: English

L9 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:783977 CAPLUS
DOCUMENT NUMBER: 132:10425
TITLE: Patient-specific **dosimetry**
INVENTOR(S): Kroll, Stewart M.; Siegel, Jeffry A.; Wahl, Richard L.; Zasadny, Kenneth R.
PATENT ASSIGNEE(S): Coulter Pharmaceutical, Inc., USA; The Regents of the University of Michigan
SOURCE: PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9962565	A2	19991209	WO 1999-US12506	19990604
WO 9962565	A3	20000406		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9943336	A1	19991220	AU 1999-43336	19990604
PRIORITY APPLN. INFO.:			US 1998-88327	19980604
			WO 1999-US12506	19990604

AB A patient-specific optimally effective radiation dose for administration of a **radiopharmaceutical** to a patient for treatment of a disease may be established by basing the calcn. of the appropriate therapeutic

dose on factors such as the desired total body dose, the max. tolerated dose, the typical **clearance** profile of the **radiopharmaceutical**, the patient's **mass** or max. effective **mass**, and the patient-specific residence time of the **radiopharmaceutical** or an analog in the whole body of the patient. The use of the method allows for treatment of a patient with an appropriate dose which is maximally effective against the disease yet minimally toxic. The detn. of a patient-specific therapeutic dose may be assisted by the use of a software program set to the particular parameters of the **radiopharmaceutical**. An example is given for calcg. patient-sp. dose of 131-I-labeled anti-B1 monoclonal antibody in a patient.

L9 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1993:404056 CAPLUS
DOCUMENT NUMBER: 119:4056
TITLE: **Dosimetry** of technetium-99m-P53, a new myocardial perfusion imaging agent
AUTHOR(S): Smith, T.; Lahiri, A.; Gemmell, H. G.; Davidson, J.; Smith, F. W.; Pickett, R. D.; Higley, B.
CORPORATE SOURCE: Clin. Res. Cent., Northwick Park Hosp., Harrow/Middx, HA1 3UJ, UK
SOURCE: Int. Radiopharm. Dosim. Symp., 5th (1992), Meeting Date 1991, Issue CONF-910529; DE92 013066, 467-81. Editor(s): Watson, Evelyn E.; Schlafke-Stelson, Audrey T. Oak Ridge Assoc. Univ.: Oak Ridge, Tenn. CODEN: 58WCAX
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Internal **dosimetry** was carried out as part of Phase I clin. studies of 99mTc-P53, a new myocardial perfusion imaging agent. Six healthy male volunteers were studied, at each of 2 centers, by sep. i.v. administration of 99mTc-P53 (138-173 MBq), at rest and following exercise. The biodistribution of 99mTc-P53 was examd. by quant. .gamma.-camera imaging, using anterior and posterior views on 8 occasions from 5 min to 48 h postinjection. Geometric mean count rates were calcd. for whole-body and organs showing significant uptake, **clearance** was monitored, and all excreted activity was collected throughout the studies. Biokinetic data from the 2 centers were very similar. Blood activity fell rapidly to <0.2%/L within 30 min., lungs and liver largely cleared within the 1st 4 h, and initial heart uptake (.apprx.1.2%) was well retained for 1 h followed by a slow fall. Of the **radiopharmaceutical**, .apprx.80% was excreted by 48 h, almost equally via kidneys and gut. After exercise, whole-body retention was consistently a few percent higher than at rest even though some organs cleared more rapidly; this may be explained by increased muscle uptake after exercise. Residence times were calcd. for 12 source organs and the remainder of the body, and organ radiation doses were estd. using MIRDOSE 2. The highest dose was 3-5 .times. 10-2 mGy/MBq (gallbladder), followed by doses in the range 1.5-3 .times. 10-2 mGy/MBq (GI tract and urinary bladder) based on a bladder voiding period of 3.5 h. **EDs** were 8.90 .times. 10-3 and 7.1 .times. 10-3 mSv/MBq for the rest and exercise studies, resp. The effects, on estd. organ uptakes and **dosimetry**, of correcting for variations in attenuation were examd.

L9 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:210252 CAPLUS
DOCUMENT NUMBER: 116:210252
TITLE: Absorbed dose estimates in positron emission

tomography studies based on the administration of fluorine-18-labeled **radiopharmaceuticals**

AUTHOR(S): Mejia, Alvaro A.; Nakamura, [redacted]ashi; Itoh, Masatoshi; Hatazawa, Jun; Ishiwata, Kiichi; Ido, Tatsuo; Matsumoto, Masaki; Watabe, Hiroshi; Watanuki, Shoichi; Seo, Shinya

CORPORATE SOURCE: Cyclotron Radioisot. Cent., Tohoku Univ., Sendai, 980, Japan

SOURCE: J. Radiat. Res. (1991), 32(3), 243-61
CODEN: JRARAX; ISSN: 0449-3060

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Absorbed doses were estd. after i.v. administration of 18F-labeled **radiopharmaceuticals** in positron emission tomog. studies. These **radiopharmaceuticals**, 2-[18F]fluoro-2-deoxy-D-glucose (FGD), 6-[18F]fluoro-L-dopa (FDOPA), and 5-[18F]fluorodeoxyuridine (FdUR), are used in clin. research at the Cyclotron and Radioisotope Center of Tohoku University. **Radiopharmaceutical** biokinetic values were measured in humans or extrapolated from animal expts. Selective organ uptake and rapid **clearance** of activity from the blood were obsd. A high activity in the bladder contents of humans was found. Calcns. were made by the MIRD method, modified to account for the differences in physique and organ **mass** between the Caucasian Ref. Man and the Japanese one. The bladder wall received the highest dose (>1.23 .times. 10-1 mGy/MBq) when any of these compds. are administered. Other organs receiving high doses were the heart, brain, and kidneys from FDG, the kidneys are pancreas from FDOPA, and the kidneys and small intestine from FdUR. These organs received absorbed doses of >2.7 .times. 10-2 mGy/MBq. **ED** equivs. of 2.4 .times. 10-2, 2.6 .times. 10-2, and 3.3 .times. 10-2 mSv/MBq were estd. in the i.v. administration of 18F-FDG, 18F-FDOPA, and 18F-FdUR, resp.

L9 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1984:403073 CAPLUS

DOCUMENT NUMBER: 101:3073

TITLE: Radiation absorbed doses from cobalt-57- and cobalt-55 bleomycin

AUTHOR(S): Beekhuis, Henk; Nieweg, Omgo E.

CORPORATE SOURCE: Univ. Hosp., Groningen, NL-9713 EZ, Neth.

SOURCE: J. Nucl. Med. (1984), 25(4), 478-85
CODEN: JNMEAQ; ISSN: 0022-3123

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Organ radiation doses to the adult patient after i.v. injection of 57Co- and 55Co bleomycin were calcd. using the Medical Internal Radiation **Dosimetry** (MIRD) methods. From these data, somatically effective total-body doses for these **radiopharmaceuticals** were derived. Source organs are the bladder, kidney, and liver, and the remainder of the body. Residence times, i.e., cumulated activities per unit of injected radioactivity, were derived for each source organ, with their std. deviations, from measurements of 57Co-bleomycin **clearance** in a small no. of patients. Target organs are the gonads and all organs that contribute to the somatically effective total-body dose. For 57- and 55Co-bleomycin, the somatically **EDs** are 0.26 (70 .mu.Gy/MBq) and 0.63 rad/mCi (171 .mu.Gy/MBq), resp. The influence of the 57Co- impurity in 55Co, and of the 55Fe- daughter of 55Co are discussed.

L9 ANSWER 12 OF 12 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 93014224 EMBASE

DOCUMENT NUMBER: 1993014224

TITLE: Technetium-99m-1,2-bis[bis(2-ethoxyethyl)phosphino]ethane: Human biodistribution, **dosimetry** and safety of a

new myocardial perfusion imaging agent.

AUTHOR: Higley B.; Smith F.W.; Smith T.; Gemmell H.G.; Gupta P.D.; [redacted]zdanovic D.V.; Graham D.; Hing[redacted].; Davidson J.; Lahiri A.

CORPORATE SOURCE: Pharmaceuticals R and D, Amersham Intl. plc, White Lion Rd.,Amersham, Buckinghamshire HP7 9LL, United Kingdom

SOURCE: Journal of Nuclear Medicine, (1993) 34/1 (30-38).
ISSN: 0161-5505 CODEN: JNMEAQ

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 006 Internal Medicine
014 Radiology
018 Cardiovascular Diseases and Cardiovascular Surgery
023 Nuclear Medicine
030 Pharmacology
037 Drug Literature Index

LANGUAGE: English

SUMMARY LANGUAGE: English

AB A novel 99mTc complex (1,2-bis[bis(2-ethoxyethyl)phosphino] ethane, 99mTc-tetrofosmin) has been developed to replace 201Tl in myocardial perfusion imaging. Biodistribution, safety and **dosimetry** of 99mTc- tetrofosmin were studied in 12 male volunteers, each at rest and during exercise. Safety parameters measured to 48 hr postinjection revealed no clinically significant long-term drug-related changes. Biodistribution was studied by acquiring whole-body or serial static images up to 48 hr postinjection. Technetium-99m-tetrofosmin shows good heart uptake (1.2%) with retention. **Clearance** is excellent from blood (<5% by 10 min), liver (<4.5% by 60 min) and lung. Sequestration of activity by skeletal muscle is enhanced during exercise. Radiation **dosimetry** calculations indicate that the **effective dose**, assuming a 3.5 hr bladder voiding period, is 32.9 x 10-3 rad/mCi (8.9 x 10-3 mSv/MBq) at rest and 26.7 x 10-3 rad/mCi (7.1 x 10-3 mSv/MBq) after exercise. Technetium-99m-tetrofosmin can produce high quality myocardial images from 5 min to several hours postinjection.